CLAIMS

We claim:

1. An isolated polypeptide, comprising an amino acid sequence selected from the group consisting of: amino acid residues 30 to 219 of SEQ ID NO:2, the amino acid sequence of SEQ ID NO:2, and the amino acid sequence of SEQ ID NO:5.

2. The isolated polypeptide of claim 1, wherein the isolated polypeptide comprises amino acid residues 30 to 219 of SEQ ID NO:2.

3. The isolated polypeptide of claim 1, wherein the isolated polypeptide comprises the amino acid sequence of SEQ ID NO:2.

4. The isolated polypeptide of claim 1, wherein the isolated polypeptide comprises the amino acid sequence of SEQ ID NO:5.

5. An isolated polypeptide, comprising the amino acid sequence of amino acid residues 30 to 610 of SEQ ID NO:8.

6. An antibody or antibody fragment that specifically binds with an amino acid sequence selected from the group consisting of: amino acid residues 30 to 610 of SEQ ID NO:8, amino acid residues 30 to 219 of SEQ ID NO:2, the amino acid sequence of SEQ ID NO:2, and the amino acid sequence of SEQ ID NO:5.

7. The antibody of claim 6, wherein the antibody is selected from the group consisting of: (a) polyclonal antibody, (b) murine monoclonal antibody, (c) humanized antibody derived from (b), and (d) human monoclonal antibody.

8. A method of identifying the presence of a Zvn2R1 ligand in a test sample, comprising: (a) contacting the test sample with a polypeptide that comprises amino acid residues 30 to 610 of SEQ ID NO:8, and (b) detecting the binding of the polypeptide to ligand in the sample.

9. The method of claim 8, wherein the polypeptide is bound to the extracellular membrane of a cultured cell.

10. The method of claim 9, wherein the ligand is contacted with a cell membrane preparation obtained from cells that produce the polypeptide.

11. An isolated nucleic acid molecule, wherein the nucleic acid molecule comprises either the nucleotide sequence of SEQ ID NO:3 or the nucleotide sequence of SEQ ID NO:6.

12. The isolated nucleic acid molecule of claim 11, comprising the nucleotide sequence of SEQ ID NO:1.

13. The isolated nucleic acid molecule of claim 11, comprising the nucleotide sequence of SEQ ID NO:4.

14. A vector, comprising the nucleotide sequence of nucleotides 88 to 1830 of SEQ ID NO:7.

15. An expression vector, comprising a nucleic acid molecule that encodes amino acid residues 30 to 610 of SEQ ID NO:8, a transcription promoter, and a transcription terminator, wherein the promoter is operably linked with the nucleic acid molecule, and wherein the nucleic acid molecule is operably linked with the transcription terminator.

16. A recombinant host cell comprising the expression vector of claim 15, wherein the host cell is selected from the group consisting of bacterium, yeast cell, avian cell, fungal cell, insect cell, mammalian cell, and plant cell.

17. A method of producing a polypeptide that comprises amino acid residues 30 to 610 of SEQ ID NO:8, the method comprising culturing recombinant host cells that comprise the expression vector of claim 15, and that produce the polypeptide.

18. The method of claim 17, further comprising isolating the polypeptide from the cultured recombinant host cells.